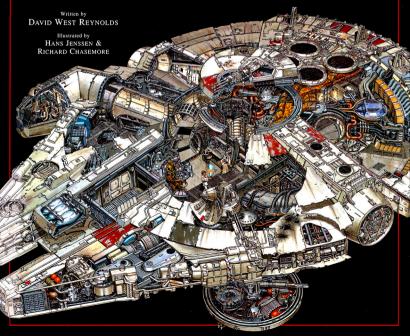


INCREDIBLE CROSS-SECTIONS

THE ULTIMATE GUIDE TO STAR WARS VEHICLES AND SPACECRAFT





INCREDIBLE CROSS-SECTIONS

WRITTEN BY DAVID WEST REYNOLDS

ILLUSTRATED BY
HANS JENSSEN
&
RICHARD CHASEMORE





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CONTENTS

SPACECRAFT ENGINES 3

BLOCKADE RUNNER

4

STAR DESTROYER 6

TIE FIGHTER 8

DEATH STAR

SANDCRAWLER 14

MILLENNIUM FALCON 16

T-65 X-WING 18

BLT-A4 Y-WING 20

TIE ADVANCED X1
22

AT-AT 24

Snowspeeder 26

AT-ST 27

SLAVE I 28

JABBA'S SAIL BARGE

ACKNOWLEDGEMENTS 32



Introduction

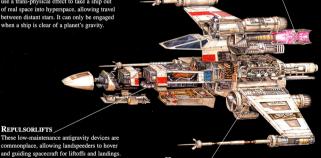
HE DAZZLING SPACECRAFT and exotic vehicles of Star Wars soar across our cinema screens, almost becoming characters themselves with their intricate detail and fascinating designs. The richness of their conception invites curiosity: what's inside a Jawa sandcrawler, and how does a Star Destroyer deploy its TIE fighters? Where was Ben Kenobi when he deactivated the Death Star's tractor beam? Here at last are revealed the interior layouts and components of these amazing vessels, answering all these questions and more, showing where all the action takes place and how their systems function. The most meticulously detailed research and design work was undertaken to make the extraordinary illustrations of this book definitive. You can spot Chewbacca's bowcaster in the main hold of the Millennium Falcon, and you can see in Boba Fett's Slave I bunk the data book in which he has finally registered Han Solo as "captured". Many of these craft have been mysteries: their secrets are now unveiled. Explore them for yourself, and revel in the depth of one of the great stories of our age.

SPACECRAFT ENGINES

The advanced engine technology of Star Wars takes many forms. Repulsorlifts are safe and reliable devices that lift a ship from the ground and take it into the upper atmosphere of a planet, cushioning its landing upon return. Sublight drives are more intricate and powerful thrust engines, which are used for navigating a ship in the space around a planet. Finally, complex hyperdrive engines use a trans-physical effect to take a ship out of real space into hyperspace, allowing travel between distant stars. It can only be engaged when a ship is clear of a planet's gravity.

SUBLIGHT DRIVES

Spacecraft engage their sublight engines once they are well clear of any facilities or personnel that might be harmed by the mildly radioactive emissions. A variety of sublight engine designs exploit the principle of ion thrust, achieved through various reactants and electronic accelerators from potent fuel mixtures. Fuels can take the form of pressurized radioactive gas, volatile composite fluids, or explosive liquid metal. Acceleration compensators project appropriately modified gravity effects within a spacecraft to preserve pilots and passengers from forceful sublight acceleration.



REPULSORLIFTS

commonplace, allowing landspeeders to hover and guiding spacecraft for liftoffs and landings. They can even be built into floating droids, although the miniaturized power systems for these are so expensive that they are only used by the Empire. Repulsorlift airspeeders and other such ground-based craft are strictly limited in the altitudes they can reach, with most speeders offering only 2-50 metres of "float." Flight-grade repulsorlifts can carry a vehicle to suborbital altitudes, but only true spacecraft employ these powerful devices:

HYPERDRIVE

Employing an energy effect rather than the matter emissions of sublight engines, hyperdrives are built in many configurations, emphasizing either power, reliability, or lower energy use ... no one engine can offer every advantage at once. The multiple components of a hyperdrive system may be located in one area or built into several quarters of a ship for easier maintenance access. Navigation through hyperspace involves extremely complex calculations. Daring pilots may cheat these calculations beyond safety margins, cutting dangerously close to the hyperspace "mass shadows" of real-space bodies, as Han Solo did when he made his notorious impossibly fast Kessel Run.

BLOCKADE RUNNER

RINCESS LEIA ORGANA OF ALDERAAN travels far and wide on board her consular starship *Tantive IV*, negotiating peace settlements and ESCAPE PODS Spacecraft escape pods range from coffinbringing aid to imperilled populations. Commanded by the daring and loyal like capsules to large lifeboats which are Captain Antilles, Leia's Tantive IV is a Corellian Corvette: an older, handsmall ships in their own right. The Blockade crafted ship of a make seen throughout the galaxy, and famous for its Runner carries eight small escape pods rated for up to three people, and four laser-armed versatility. Under the cover of diplomatic immunity, the senatorpods which seat 12. More sophisticated than princess uses her ship for missions of espionage against the Empire the smaller pods, these lifeboats nonetheless have a very limited range. None of the and covert communications for the Rebel Alliance. The Tantive IV's escape systems could save its Tantive IV's mission profile takes it into both war crew from the Devastator's guns. zones and high-level diplomacy, making its added armour plate as vital as its formal Armed high-capacity escape pod doubles as Added armour plate state conference chamber. This sturdy long-range laser turret permanently covers ship has brought the young princess stateroom windows through many harrowing adventures, High-capacity pod is boarded and it is only under the pursuit of via central access ladder Darth Vader that the Tantive IV is finally overtaken and captured. Lein's Control and Officers' briefing Officers' quarters power linkages Forward Computer power substation conference chamber Tech station monitors ship operations Leia's sea Darth Vader throttles Cockpit Escape pod access tunne prisoners and droids being Commander Praii in escorted off main computer room the ship for Escape pod that Captain Antilles' quarters C-3PO and R2-D2 will use

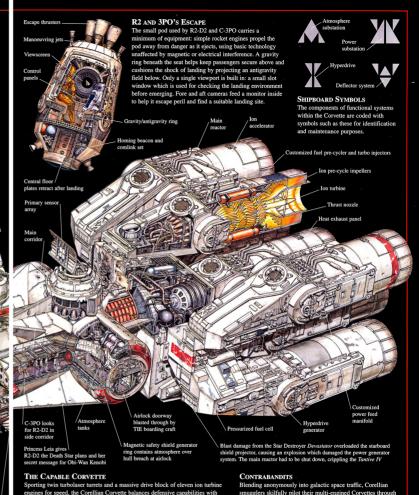
Defensive field projector

Lower turbolaser is

manned by two gunners

Forward airlock

docking hatch



Imperial security zones to avoid duties and taxes (or arrest for

dealing in weapons and illegal goods). They are hard to spot,

and chagrined Imperial officials have given the make its

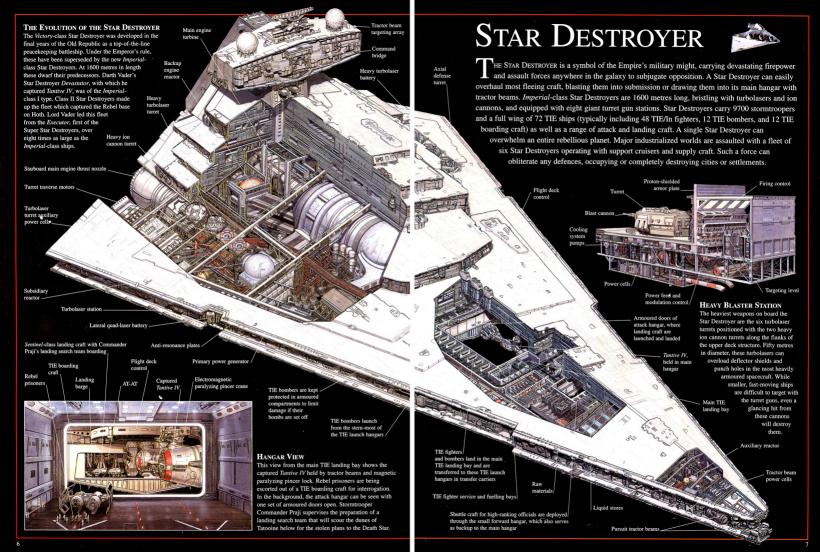
nickname "Blockade Runner".

a high power-to-mass ratio, meaning that what it can't shoot down it can

most notorious use is in the hands of Corellian smugglers.

generally outrun. These capable ships have been adapted to many uses, from

cargo and passenger transport to scientific and military applications, but their



TIE FIGHTER

Solar energy collectors

Solar array

URTLING THROUGH SPACE, TIE fighters are the most visible image of the Empire's wide-reaching power. The TIE fighter engine is the most precisely manufactured propulsion system in the galaxy. Solar ionization collects light energy and channels it through a reactor to fire emissions from a high-pressure radioactive gas. The engine has no moving parts, making it low-maintenance. To reduce the mass of the ship, TIE fighters are built

> without defensive shields, hyperdrive capability, and life-support systems - so the pilots must wear spacesuits. The lightweight ship gains speed and manoeuvrability at the price of fragility and dependence on nearby Imperial bases or larger craft for support.





Fuel tank cap Energy grid monitor

ALL THE SAME

TIE pilots may never use the same ship twice, and develop no sentimental attachment to their craft as Rebels often do. TIE pilots know that every reconditioned fighter is identical to a factory-fresh ship; one is the same as many thousands another reinforcement of Imperial philosophy of absolute conformity.

Energy

Heat exchange



TIE MISSION PROFILES

TIE fighters are deployed for a variety of mission profiles. Their primary role

is as space superiority fighters, engaging Rebel craft and defending Imperial bases

and capital ships. Scout TIEs may travel alone to cover wide areas of space. Such individual scouts patrol the huge asteroid field left by the explosion of the planet

Alderaan. Ships are assigned to escort duty in pairs, such as the twin TIEs that escort

all flights of the Emperor's shuttle. Regular sentry groups of four TIE fighters patrol

the space around Imperial bases, stations, and capital starships. A typical TIE fighter

attack squadron consists of 12 ships, and a full attack wing consists of six squadrons.

TIE VARIANTS

The basic structure of the TIE fighter has proven so successful that derivative variants use the same cockpit, wing brace structure. and drive system components. The Advanced X1 (above centre) added shields and hyperdrive. The fearsome TIE Interceptor (above right) features improved ion drives and electronics, and advanced ion stream projectors giving exceptional control.

TIE arriving from landing

Hangar control



TIEs are launched from cycling racks of up to 72 ships in the larger hangars; smaller hangars may contain as few as two ships. Pilots board from overhead gantries and are released to space as they disengage from the front position in the rack system. Returning ships land in separate hangars, where they are guided into receiver-carriers by small tractor beams. The receivers carry the TIE to a debarkation station where the pilot exits. From there the TIE may be serviced and refuelled in a separate bay on its way through transfer tunnels to a launch hangar. In the launch hangar the TIE is cycled into the launch rack, ready for its next mission.

PILOT PSYCHOLOGY

TIE fighters lack landing gear, a measure designed to reduce mass for maximum manoeuvrability. While the ships are structurally capable of sitting on their wings, they are not designed to land or disembark pilots without special support. This teaches the pilots to rely completely on higher authority

DEATH STAR

HE EMPIRE'S GIGANTIC battle station code named Death Star is 160 kilometres in diameter, large enough to be mistaken for a small moon. The brainchild of Grand Moff Tarkin, this colossal super-weapon is designed to enforce the Emperor's rule through terror, presenting both the symbol and reality of ultimate destructive power. Making use of the Empire's most advanced discoveries in super-engineering, the Death Star is built around a hypermatter reactor which can generate enough power to destroy an entire planet. Constructed in secret by slave labour and titanic factory machines, the Death Star's vast structure houses millions of soldiers and thousands of armed spacecraft, making it capable of occupying whole star systems by force. Elite gunners and troopers man the station's advanced weapons. The Death Star, once fully operational, represents a chilling spectre of totalitarian domination and threatens to extinguish

all hope for freedom in the galaxy.

CRUCIAL WEAKNESS

The Death Star's powerful defences have one fatal flaw - small thermal exhaust ports that lead from the surface to the heart of the main reactor.

Main exhaust port -Thermal exhaust port shaft runs through central power column Equatorial

THE STOLEN PLANS

A complete technical readout of the battle station (left) was stolen by Rebel spies. These plans reveal the overwhelming might of the Death Star, detailing its myriad weapons systems and immense power structures. Ion engines, hyperdrives, and hangar bays ring the station's equatorial trench, while power cells over 15 kilometres wide distribute energy throughout the thousands of internal decks of the station. Air shafts and void spaces

honeycomb the interior. Occupying the polar axis of the Death Star is its central power column, with the hypermatter reactor at its core.

Inner decks stacked

Surface decks concentric



ALDERAAN DESTROYED

Without hesitation Grand Moff Tarkin orders the destruction of the peaceful planet Alderaan as the first demonstration of the Death Star's power. As the superlaser lances out at the blue-green planet, this horrific act wipes out billions of people.

SUPERLASER TRIBUTARY BEAM SHAFT

Eight tributary beams unite to form the superlaser primary beam. These tributary beams are arranged around the invisible central focusing field, firing in alternate sequence to build the power necessary to destroy a planet. The titanic energy of these beams must be monitored to prevent imbalance explosions.



DETENTION BLOCK AA-23

A desperate plan takes Luke, Han, and Chewbacca into the heart of peril as they try to rescue Princess Leia. Disguised as stormtroopers, Luke and Han escort Chewbacca, their "prisoner", into Leia's detention block. The supervisor suspects trouble, and only immediate action will save the Rebels.



Trash Compactor 32-6-3827

Escaping Leia's cell block, the Rebels dive into a garbage chute and land in a trash compactor, where refuse of every kind is collected before being processed and dumped into space.



AIR SHAFT

Throughout the Death Star are vast air shafts. Extendable bridges connect passages across the shafts, but can be disabled. When Luke and Leia find themselves trapped at one of the air shafts, quick thinking and bravery provide the only way across.



TRACTOR BEAM REACTOR COUPLING

The Death Star tractor beam is coupled to the main reactor in seven locations. These power terminals stand atop generator towers 35 kilometres tall. The air is taut with highvoltage electricity throughout the shaft surrounding the tower. It is in this setting that Ben Kenobi secretly deactivates one of the power beams to allow the Millennium Falcon to escape.



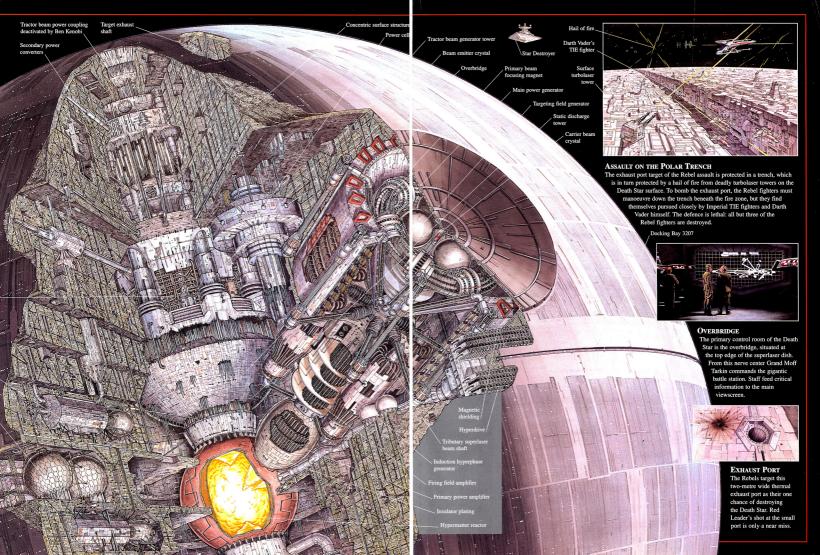
CHALLENGE AND SACRIFICE

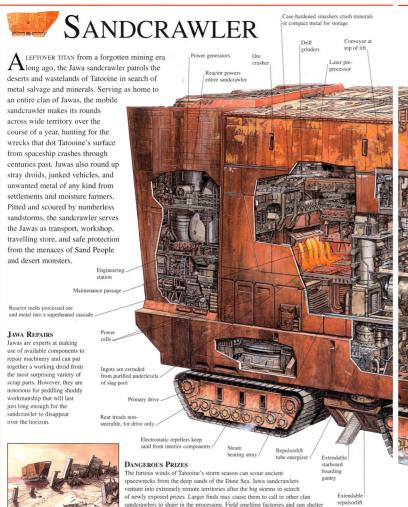
his old Jedi master Obi-Wan Kenobi him alone in a deadly lightsabre duel. Kenobi sacrifices himself to help hi young friends escape, yielding to Vader in an empty victory in which, mysteriously, Obi-Wan becomes one



Drawn in by a tractor beam, the Millennium Falcon comes to rest in a pressurized hangar within the Death Star's equatorial trench. Magnetic shields over the entrance retain the atmosphere. Outboard power-feeds hook up to landed craft so that the ship reactors can be shut down while in the hangar.

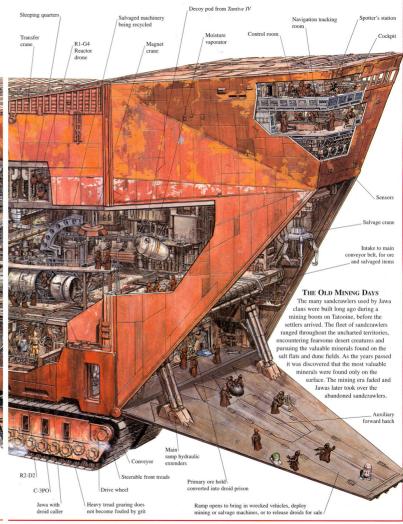






awnings are quickly erected as the Jawas work to beat the arrival of the next

storm. But the wastelands can hold dangers more unexpected than storms.





CUSTOMIZED

Fuel drive pressure stabilizer

Fuel driver

Hyperdrive

Two quad-laser cannons, mounted above and below the ship's centre, provide excellent protection for the Falcon. These extremely illegal military-grade blasters are just one of many augmented systems on board. The oversized topof-the-line sensor dish on the port side can alert Captain Solo to Imperjail ships before they become aware of his.

Sublight engines

Crew

Circuitry bay

Port docking ring

Thrust vector magnet

Sublight drive exhaust

Rear hover pad and

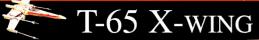
landing gear

THE SECRETS OF SPEED

The Falcon's customized byperdrive system is fully twice the size of the drive system in a standard YT-1300 freighter, giving the ship a hyperdrive class of 0.5, twice as fast as Imperial warships. The secret of its hyperdrive performance is in Solo's modifications that "streamline" the ship in hyperspace, controlling the warp of the space-time continuum around it. Other ships have tried to match the Falcon's speed without these modifications, and have blown themselves to subatomic particles.

DEJARIK GAMEBOARD The life of a space freighter involves

many long hours of space travel, and at Chewbacca's urging the Falcon was equipped with a Dejarik Hologame table. This table projects several different kinds of holographic games on a surface of chequered circles. Dejarik chess pits two teams of assorted creatures against each other in a classic contest of matched but differing abilities.



THE X-WING STARFIGHTER was a top-secret project of the Incom Corporation when the Empire began to suspect Rebel sympathies within the company and seized its assets. Key members of the design team escaped with the plans and two prototypes, destroying all other records of the ship. Hence, into the hands of the Rebellion came what would become its finest space fighter. Carrying heavy firepower, hyperdrive, and defensive shields, the X-wing is nonetheless manoeuvrable enough for close combat with the Empire's lethally agile TIE fighters. A truly formidable space superiority fighter, the X-wing's complex systems and rare alloys have delayed production of significant numbers of the craft for years.



INSIDE THE COCKPIT

The X-wing's highly responsive manoeuvrability can make it a dangerous craft for new pilots to handle. In addition to the fairly straightforward flight control systems, comprehensive cockpit displays allow the pilot to monitor and control energy distribution throughout the ship's systems during combat.

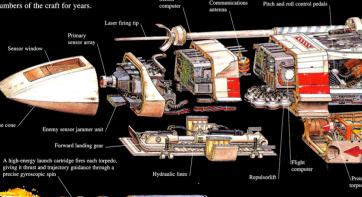
Communications



Primary control

systems similar to

those of civilian



Arming power

DESTROYER OF THE DEATH STAR

Proton torpedoes such as the MG7-As carried by the X-wing are extremely dangerous focused nuclear explosives. They are used for critical target destruction or to punch through ray shielding that will deflect laser weapons. Proton torpedoes are very expensive and available to Alliance forces only in limited numbers. Luke Skywalker carried only a single pair for his critical shots that destroyed the original Death Star.

Guidance gyro

INDEPENDENT OPERATION

Hyperdrive and the ability to launch and land without special support enable the X-wing to operate independently, unlike Imperial TIE fighters. The X-wing is equipped with life support sufficient for one week in space: air, water, food, and life-process support equipment are packed into the area behind the pilot's seat. When the ship lands, the air supply can be renewed, and the water and life support systems can be partially recharged. A cargo bay carries survival gear for pilots who land in hostile environments or remote places.

THE DOG-FIGHTING EDGE

The on-board R2 astromech droid

carries out hyperspace calculations

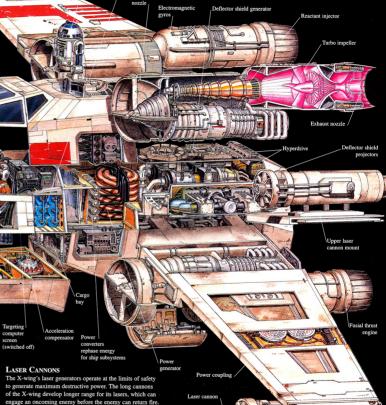
and handles in-flight operational

adjustments and damage control

Magnetic flashback suppressors keep the occasional unstable laserbolt from damaging the cannon

Retro-thrust

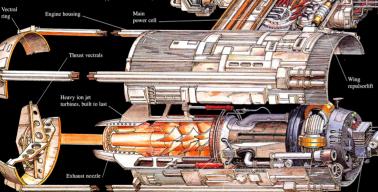
The X-wing achieves its remarkable manoeuvrability through a combination of three factors. Differential thrust from its four fusial ion engines is the first. High-mass electromagnetic gyros in each of the four retro thrusters add a turning effect that helps to swing the ship in tight curves. Finally, precise bursts of retro-thrust fire forward through the turbine nozzles to add further control and give the ship a critical edge in combat.



Laser cooling sleeve



as do most of the Y-wings in the Rebel Alliance space combat fleet. The ship is a combination fighter and light bomber, built to last and made to last even longer by dedicated Rebel mechanics. It has earned its reputation as the workhorse of the Rebel fighting forces, and is still the most numerous fighter in the Alliance. There are several different models, adapted for different missions, including one-man and two-man versions. Sporting heavy laser cannons, ion cannons, and proton torpedo magazines, the ship carries devastating firepower, and its solid construction weathers combat damage that would destroy lighter craft. It is neither the fastest nor the most manoeuvrable ship in the sky, but with its balance of capabilities the Y-wing remains a sturdy asset to the Alliance space combat forces. Hyperdrive arc housing



Custom ion

turbo injector

ION CANNONS

Ion cannons fire an electrical charge to disrupt the control circuits of an enemy craft without destroying it. The Y-wing features twin ion cannons, but they are notoriously delicate instruments. Their crystal matrices invariably get vibrated out of alignment in flight and combat, and Rebell mechanics hate them for the time they cost in maintenance. For the attack on the Death Star, only two Y-wings in the entire Rebel force had functioning ion cannons. These proved critically useful, and one of these craft was the only Y-wing to survive the battle.

Ion fission reactor

COOLING SYSTEM

Pulse electromagnets

accelerate ionized fuel

for injection into turbines

Hyperdrive tachyon

Deflector shield

Deflector shield

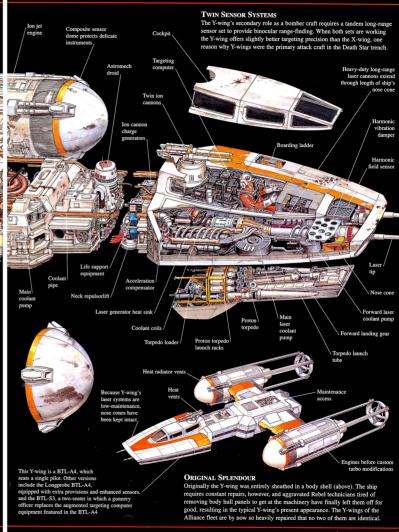
The Y-wing nuns very hot for a ship of its size, and employs a complicated cooling system which runs throughout the ship. Parts of this system need maintenance after every flight. Coolant tubes are often Jerry-rigged by Rebel mechanics when leaks render inaccessible sections frustratingly inoperative.

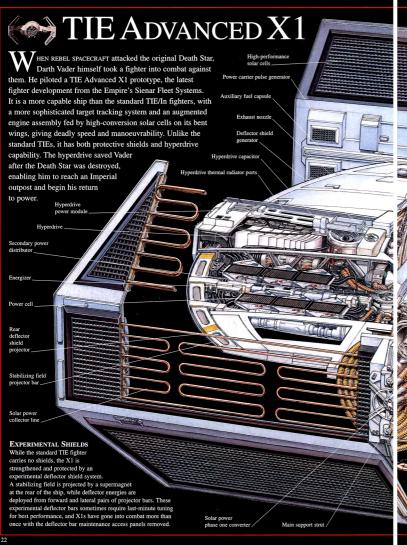
Long-range

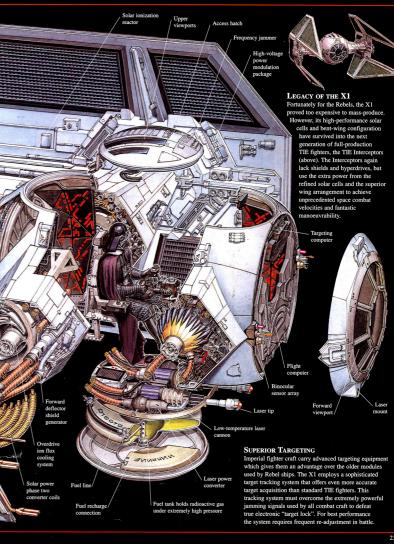
targeting

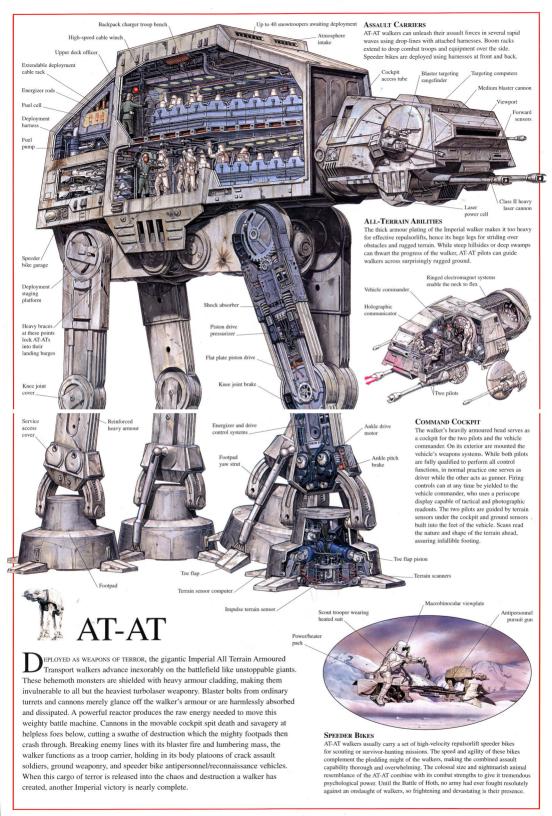
Twin power generators are

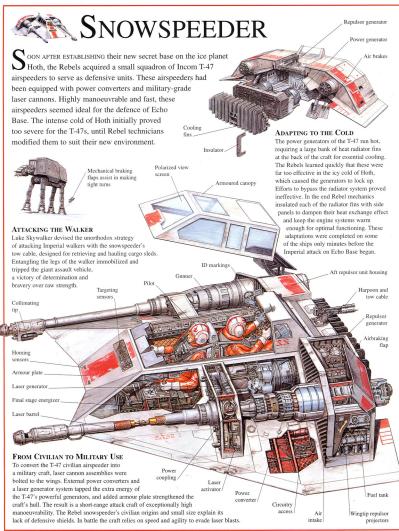
compact and durable

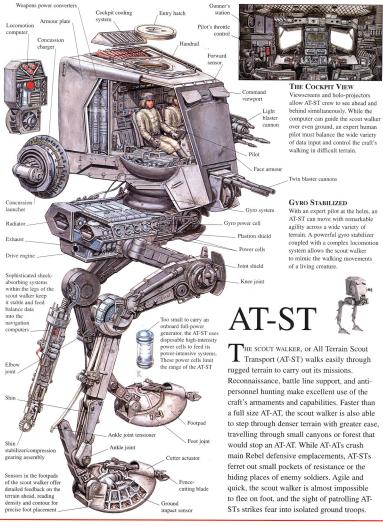


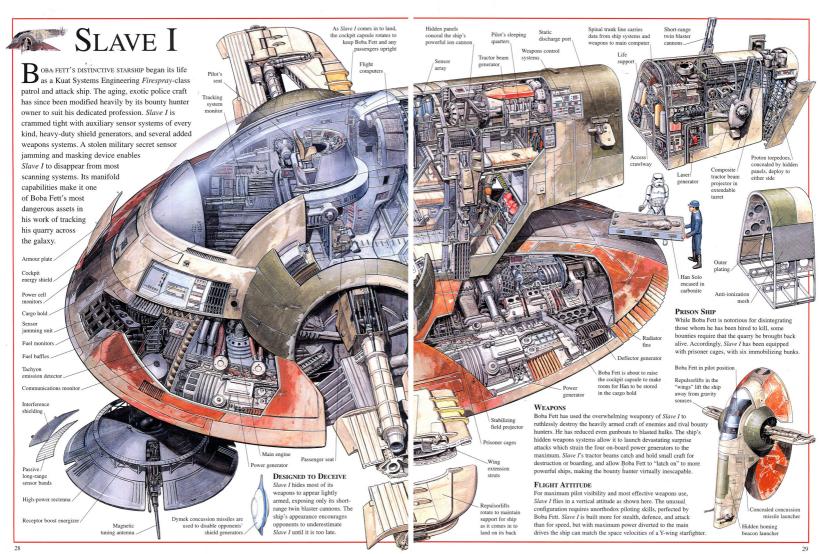


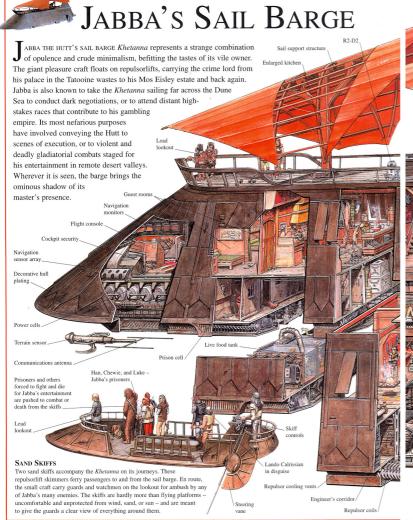


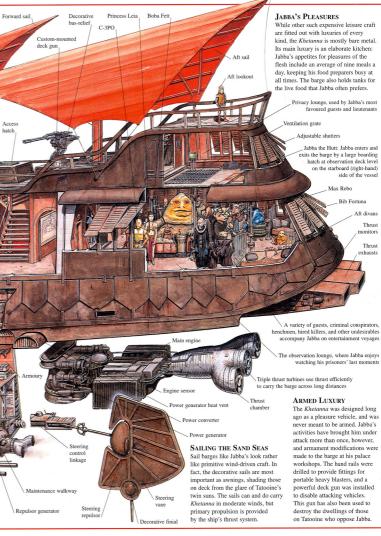














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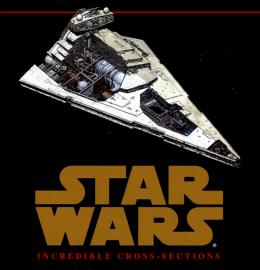
Hans Jenssen painted the X-wing, Y-wing, Millemtium Falcon, THE Advanced XI, Death Star, THE fighter, Blockade Runner, and AT-AT. Richard Chasemore painted Jabba's Sail Barge, Slave I, Snowspeeder, AT-ST, Star Destroyer, and Sandcrawler.

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Sec

Slave I's secret weapons systems • the snowtroopers and crew aboard a mighty AT-AT walker
• Princess Leia's Blockade Runner at the moment of its capture

Discover

The special features of Darth Vader's TIE fighter how a proton torpedo works the engines, hangars, landing bays, and weaponry of a Star Destroyer

Explore

The vast interior of the Death Star • the internal layout of the *Millennium Falcon*• and much more!

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